



承認書

APPROVE SHEET



敬請承認如下之形式規格書：

客戶名稱

CUSTOMER: _____

貴公司製品名

本公司製品名：

自锁/无锁开关

CUSTOMER PN: _____

PRODUCT PN: _____

貴公司規格

本公司規格：

EL-7701 自锁/无锁

APPROVAL DAT: _____

PRODUCT CODE: _____

客戶料號：

本公司規格書編號：

CUSTOMER NO.: _____

PRODUCT DRAWING NO.: _____

☒ 新品承認

NEW APPROVE

☐ 規格變更再承認

CHANGE CODE APPROVE
AGAIN

☐ 材料變更再承認

CHANGE MATERIAL APPROVE
AGAIN

APPROVAL

批准

DATE: _____

CHECK

審查

DATE: _____

DESIGN

設計

DATE: _____

貴公司承認欄

APPROVAL SIGNATURES

請於____年____月____日前承認返回

日期 DATE: _____

PLEASE RETURN TO ADMIT XUNIANRURI

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1. 一般特性 General Characteristics

1.1 额定值(Rating Value): DC30V 0.1A(max.) DC 2V 10 μ A(min.)

1.2 工作温度(Work Temperature Range): -10℃~70℃

1.3 存贮温度(Store Temperature Range): -20℃~80℃

1.4 正常测试条件(未有特殊说明量测在以下条件进行):

General test condition (Tests and measurements shall be made under the following standard conditions unless otherwise specified):

正常温度: 5℃~35℃

相对湿度: 45%~85% RH

气压: 8,600~10,600帕

Temperature: 5℃~35℃

Relative humidity: 45%~85%

Air pressure: 8,600~10,600 pa

2. 产品外观要求 Appearance Requirement

2.1 产品外形结构紧凑,无配合不良.

The structure of product is compact, and assembly of parts has no badness.

2.2 产品塑胶部件无严重缩水、披锋、欠注、斑点、破损或变形现象.

The plastic parts of product have no serious defects such as very serious shrink, scarcity, fleck, disrepair, transmutation, etc.

2.3 产品引脚和外壳无严重氧化、脏污、变形、毛刺或电镀不良.

Lead feet and shell have no serious defects such as oxidation, smudge, disrepair, burr, defects on plating.

2.4 开关操作顺畅,节奏感强,无明显卡塞现象,(自锁开关锁芯锁住后,允许导芯倾斜正负2°)

Operating switch is unhindered, rhythmmed, and there is not palpable clag. (After the keystoke is locked, it is normal that the keystoke tilt to one side plus or minus 2°)

2.5 产品结构及尺寸参见产品规格图纸.

Construction and dimensions: Refer to individual product drawing.

3. 电器特性 Electronic Characteristics

| No. | 项目 Item | 测试方法 Test Method | 测试设备 Equipment | 特性要求 Requirements |
|-----|--------------------------------------|---|---------------------------------------|--|
| 3.1 | 接触电阻 Contact Resistance | 在低电流 ($\leq 100\text{mA}$) 条件下测试。 Measured at low current (100mA or less). | 低电阻测试仪 Low Resistance Meter | 100m Ω (max.) |
| 3.2 | 绝缘阻抗 Insulation Resistance | 测试相邻脚之间, 引脚与外壳之间的绝缘阻抗 (DC250V) Weasurement shall be made between adjacent terminals, between terminal and shell (DC250V) | 绝缘测试机 Insulation Resistance Tester | 100M Ω (min.) |
| 3.3 | 耐压测试 Dielectric Withstand Voltage | 输入一定电压AC250V (50~60Hz, 电压值见图示) 1分钟, 漏电流为2mA, 测试邻近端子间。 Apply certain voltage AC250V (50~60Hz, detail see drawing) for 1 minute between adjacent contacts of the connector with 2mA leakage sensitivity. | 耐压测试机 Puncture Tester | 没有绝缘破坏, 电弧等异常。 No arcing, break-down and damaging insulation. |

4. 机械特性 Mechanical Characteristics

| No. | 项目 Item | 测试方法 Test Method | 测试设备 Equipment | 特性要求 Requirements |
|-----|--|--|--|---|
| 4.1 | 操作力 Operation Force | 垂直操作开关按键，逐渐施力，测量开关到达全部工作行程时所需的最大操作力度和回复力度。 Operate the keystroke of the switch vertically, and then increase press strength graduslly ,Measured maxi-mum operation force to be need while the travel of switch is full and reply dint degree. | 推拉力计 Push-Pull Force Gauge | 见图面 See Drawing |
| 4.2 | 行程 Pre-travel Full-travel | 垂直操作开关按键，量开关顶端导通时的移动距离或最大移动距离。 Operate the keystroke of the switch vertically, the travel distance of keystroke moving from its free position to operation position or maximum moving distance shall be measurement. | PT 治具 游标卡尺 PT Tester Vernier Caliper | 见图面 See drawing |
| 4.3 | 端子强度 Load Strength of Terminal | 于开关端子任意方向施加0.5Kg的力，持续时间1分钟。 Apply 0.5Kg load to teminal of the switch in any direction for 1 minute. | 砝 码 Poise | 端子无脱落，断裂，松动等异常。 Terminal shall be not broken off, Rupture , looseness and other defects. |

5. 可靠性测试 Reliability trial

| No. | 项目 Item | 测试方法 Test Method | 测试设备 Equipment | 特性要求 Requirements |
|-----|------------------------------------|---|--------------------------|---|
| 5.1 | 寿命测试 Operation Life Test | 开关置于寿命试验机上连续工作，工作频率低于每分钟30次，工作条件为：DC5V 5mA. The switch would be operated continuously by auto machine at maximum rate of 30 cycles per hours on conaition that the voltage is 5V and the current is 5mA. | 寿命试验机 Life Tester | 寿命: 100,000次 实验后: 绝缘电阻: 10M Ω Min 操作力: 变化在 $\pm 50\%$ 内 开关外观及结构无损坏。 Life test: 100,000cycles After test: Insulation resistance: 10M Ω Min Operating force: Change should be within $\pm 50\%$ of specified value. No abnormalities shall be recognized in appearance and construction. |

5. 可靠性测试 Reliability trial

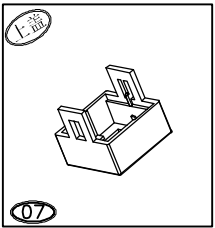
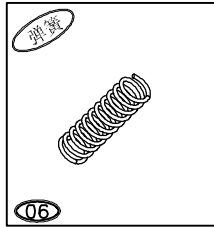
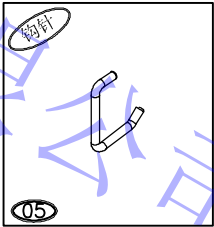
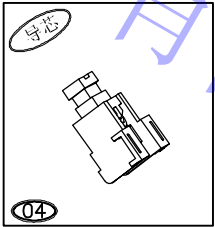
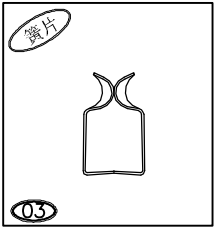
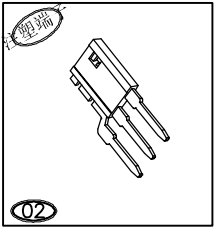
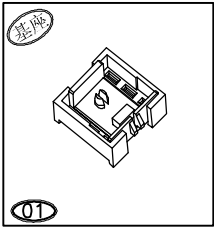
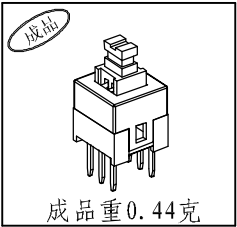
| No. | 项目 Item | 测试方法 Test Method | 测试设备 Equipment | 特性要求 Requirements |
|-----|---|---|---|--|
| 5.2 | 可焊性测试 Solder ability Test | 端子顶部被浸入焊锡炉中，温度为 $230 \pm 5^\circ\text{C}$ ，时间 5 ± 1 秒。 The top of the terminals shall be dipped in the solder bath at $230 \pm 5^\circ\text{C}$ for 5 ± 1 seconds. | 控温锡炉 Solder Stove | 引脚至少95%上锡。 95 percent of terminals shall be dipped. |
| 5.3 | 耐焊接热试验 Resistance to Soldering-heat Test | 端子焊接部分浸入焊炉，焊炉温度 $260 \pm 5^\circ\text{C}$ ，焊接时间 5 ± 1 秒。（焊接时不可于端子施加外力）。 Terminals shall be dipped in the solder bath at $260 \pm 5^\circ\text{C}$ for 5 ± 1 seconds without additional force for | 控温锡炉 Solder Stove | 本体无变形，能满足于机械、电气性能。 Appearance should be not electrical and mechanical characteristics shall be satisfied. |
| 5.4 | 耐高温测试 Resistance to Heat Test | 放置在温度 $80 \pm 2^\circ\text{C}$ 环境中96小时后，再置于正常条件1小时后测试。 The switch shall be stored at a temperature of $80 \pm 2^\circ\text{C}$ for 96 hours, Measurements shall be made after it be subjected to the standard conditions for 1 hour. | 高低温试验机 High & Low Temperature Tester | 外观，机械及电气性能均符合要求。 Appearance, electrical and mechanical characteristics shall be satisfied. |
| 5.5 | 耐低温测试 Resistance to Cold Test | 放置在温度 $-25 \pm 3^\circ\text{C}$ 环境中96小时后，再置于正常条件下1小时后测试。 The switch shall be stored at a temperature of $-25 \pm 3^\circ\text{C}$ for 96 hour, Measurements shall be made after it be subjected to the standard conditions for 1 hour. | 高低温试验机 High & Low Temperature Tester | 外观，机械及电气性能均符合要求。 Appearance, electrical and mechanical characteristics shall be satisfied. |

5. 可靠性测试 Reliability trial

| No. | 项目 Item | 测试方法 Test Method | 测试设备 Equipment | 特性要求 Requirements |
|-----|--------------------------------------|--|--|---|
| 5.6 | 耐湿性测试 Resistance to Humidity Test | 放置于温度 $40\pm 2^{\circ}\text{C}$ ，相对湿度为90~95%环境中96小时后，再置于正常条件下1小时后测定（注意要擦去水滴）。 The switch shall be stored at a temperature of $40\pm 2^{\circ}\text{C}$, relative humidity 90~95% for 96 hours, Measurements shall be made after it be conditions for 1 hour (Wipe out water drip). | 恒温恒湿箱 Temperature & Humidity Tester Chamber | 外观，机械性能及接触电阻均符合要求。 Appearance, mechanical characteristics and contact resistance shall be satisfied. |
| 5.7 | 盐雾实验 Salt Mist Test | 试件在下述实验后测量： 1. 温度： $35\pm 5^{\circ}\text{C}$ 2. 盐溶液浓度： $5\pm 1\%$ （质量百分比）， 3. 试验时间：24小时， 4. 试验后，将盐沉积物用水冲掉。 The switch shall be checked after following test: 1. Temperature: $35\pm 5^{\circ}\text{C}$ 2. Salt solution: $5\pm 1\%$ (Solids by mass) 3. Duration: 24 hours, 4. After immersing, salt deposit shall be removed by running water. | 盐雾试验机 Salt Spray Tester | 在金属件上没有严重腐蚀斑点。 No remarkable corrosion shall be recognized in metal parts. |
| | | | | |

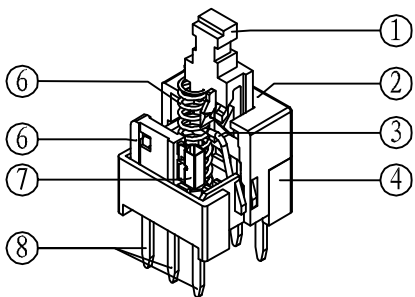
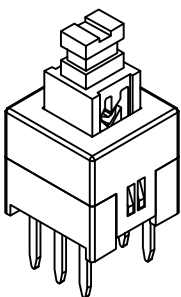
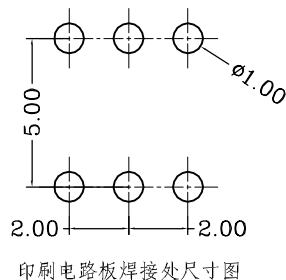
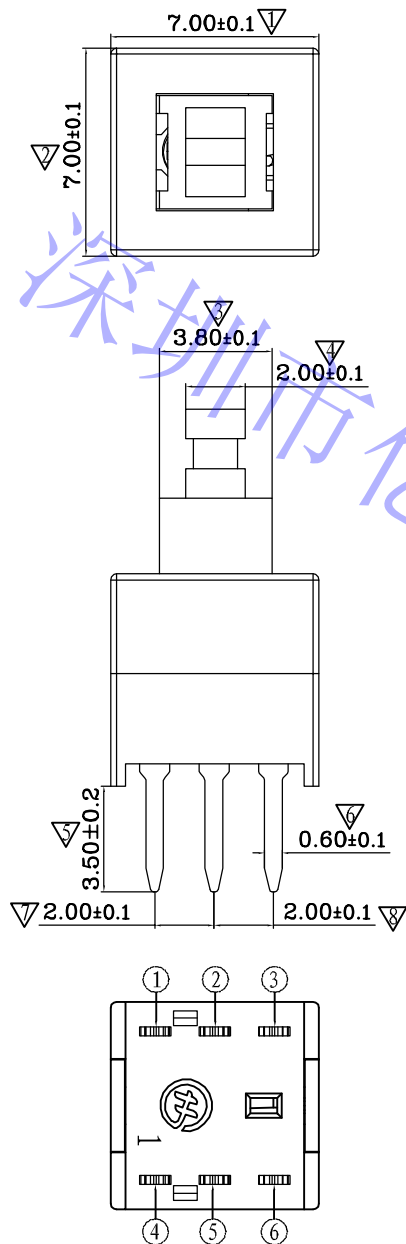
| 产品料号： 7.0自锁按键开关 | | | 产品用量表 (BOM) | | | | | | | 文件编号：KL-ED-08-04B1 | | | |
|-----------------|-----------|----|--------------------------------------|-------|-------|------|----|--|---------|--------------------|-------|--------|-----|
| 序号 | 零件名称/料号 | 用量 | 材 料 | 镀种/颜色 | 色粉No. | 供应单位 | | | 料宽 (mm) | 模穴 | 材料利用率 | 单重 (g) | 备注： |
| | | | | | | 自制 | 外协 | | | | | | |
| 01 | 基座 | 1 | PBT, 颜色: 黑色 (加纤15%) /灰色 (加纤30%) | 黑色 | 见颜色布置 | ✓ | | | | | | 0.09 | |
| 02 | 注塑端子(半成品) | 2 | PA66 (黑色)+30%GF, /黄铜 (H65) | 黑色/镀银 | | ✓ | | | | | | 0.07 | |
| 03 | 簧片 | 2 | 磷铜0.05mm | 单边覆银 | | ✓ | | | | | | 0.003 | |
| 04 | 导芯 | 1 | POM | 兰色 | | ✓ | | | | | | 0.09 | |
| 05 | 钩针 | 1 | 钢丝 | 素材 | | | ✓ | | | | | 0.01 | |
| 06 | 弹簧 | 1 | 碳素钢 | 素材 | | | ✓ | | | | | 0.023 | |
| 07 | 上盖 | 1 | POM | 白色 | | ✓ | | | | | | 0.09 | |
| | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | |
| | | | 材质必需符合无卤 (材质必需符合, "ROHS") 环保有害物质含量标准 | | | | | | | | | | |
| | | | | | | | | | | | | | |

图示:



| | | | | | | | | | | | | | |
|------|----|------|--|--|----|----|--|--|--|--|--|--|---------|
| | | | | | | | | | | | | | 第1页 共1页 |
| | | | | | | | | | | | | | 版本:A |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| 变更标记 | 处数 | 变更描述 | | | 担当 | 日期 | | | | | | | |

遵守欧盟WEEE和ROHS之规定



技术参数

1. 额定电流: DC30V 0.1A
2. 接触阻抗: 100mΩ Max
3. 绝缘阻抗: 100MΩMin (DC500V)
4. 耐高压: 交流250伏 (50-60赫兹) 持续1分钟
5. 操作力: 230 ± 50gf
6. 寿命: 100,000次.
7. 行程: 2.4 ± 0.2 mm
8. 运行类型: 自锁

| | | | | | |
|----|------|------|------|---------|----|
| ⑧ | 端子 | 6 | 黄铜 | 镀银 (Ag) | |
| ⑦ | 簧片 | 2 | 磷铜 | 复银 | |
| ⑥ | 注塑端子 | 2 | PA66 | 黑色 | |
| ⑤ | 弹簧 | 1 | 钢丝 | 素材 | |
| ④ | 底座 | 1 | PBT | 黑色 | |
| ③ | 钩针 | 1 | 钢丝 | 素材 | |
| ② | 盖子 | 1 | POM | 白色 | |
| ① | 导芯 | 1 | POM | 蓝色 | |
| 序号 | 产品型号 | 端子编号 | 数量 | 材料 | 备注 |

深圳市亿利百斯特电子有限公司

| | | | | | | | | | | | | | | | | | | | |
|----------|----|----|----|---|---|----|---------|-------|----------|--------------------|-----|----|------------|--|----|----|--|----|--|
| | | | | | | | 角度 | ±2° | 工程图面 | 设计 | 刘志勇 | 日期 | 2006.07.25 | 名称: 7x7自锁/无锁 黑底蓝盖 料号: EL-7701 PS自锁/无锁 | | | | | |
| | | | | | | | 30 - 10 | ±0.30 | | 审核 | | 日期 | | | | | | | |
| | | | | | | | 20 - 10 | ±0.20 | | 核准 | | 日期 | | | | | | | |
| | | | | | | | L≤10 | ±0.10 | | 图面编号: P1070D10011A | | | | | | | | | |
| 工程变更通知单号 | 版次 | 日期 | 说明 | | | 修改 | 审核 | 核准 | 未详细说明之公差 | | | 比例 | 1:1 | 单位 | mm | 页码 | | A4 | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | | | | | |